



Jefferson Science Associates, LLC

100 Introduction

**Project Control System Manual
Revision 4**



100 Introduction

- A. Jefferson Science Associates, LLC (JSA) is a Southeastern Universities Research Association-Computer Sciences Corporation limited liability corporation created specifically to manage and operate Jefferson Laboratory for the Department of Energy. This JSA Project Control System Manual describes the processes and procedures for implementing an Earned Value Management System on projects conducted by Jefferson Science Associates at the Jefferson Lab. All Jefferson Lab projects with a total budget of \$5 million or more will employ an Earned Value Management process as described in this manual. The JSA Project Control System Manual supports the Jefferson Lab mission by facilitating the achievement of project success regardless of project size or complexity. Earned Value Management is an acknowledged management process for the organization, planning, performance measurement, and controlling of projects. A project's technical scope of work is integrated logically with its schedule and budget to form an approved project baseline. Accomplished work and accrued costs during project execution provide essential earned value information to measure performance for comparison to this baseline. Project management gains valuable insight into the health of the project by examining the earned value indicators.
- B. Earned Value Management is a systematic framework to communicate project progress and performance across all levels of the project management team and to the project customer. The Earned Value Management System is more than just a method to report the status of a project. It is a vital management tool that allows project leadership to “manage by exception” and focus on the critical issues of a project. The earned value indicators provide quantifiable project data for identifying, analyzing, understanding, and resolving problems. The project management team can be proactive in engaging potential problems before they have a major impact to the project and thus prevent surprises that cost the project time and money.
- C. The JSA Project Control System Manual is organized along the Earned Value Management Systems guidelines established in the American National Standards Institute (ANSI)/Electronic Industries Alliance (EIA) Standard-748-A-1998. This project management standard defines 32 “best practice” criteria for implementing the Earned Value Management process. By implementing the Earned Value Management processes and procedures documented in this manual, the project management team can:
- establish a standard approach to organizing the various elements of a project.
 - facilitate the formation of a comprehensive time-phased budget by thorough schedule planning and cost estimating.



- control project activity flow by defining how work is formally authorized.
- capture actual costs on the project via the Lab accounting system.
- determine specific work progress on the project at a detail level.
- perform variance analysis on the resultant earned value data to measure performance against the approved project baseline.
- establish a consistent process for controlling changes to the project baseline.

D. Successful implementation of the Earned Value Management System at Jefferson Lab will result in numerous benefits to the organization and to the project management team.

- Detailed planning at the beginning of a project often addresses problems that may surface later in the effort, preventing schedule slips, increased costs, and/or technical rework. Project leaders can easily identify problem areas and pin down the specific sources of the problems with detailed planning.
- Better visibility into the performance of the project is gained due to the integrated method of extensive planning, earned value analysis, and baseline control.
- Project accountability is fostered and overall project quality is enhanced by the identification of a responsible person/organization at each work level.
- Project risk reduction is enhanced by the availability of earned value metrics allowing project management to mitigate impacts by making early adjustments to the project. Accurate estimates of schedule completion and projected final costs can be produced.
- A single, integrated management control system provides reliable data for analysis. Integrity of the project performance data will be enhanced and informed decisions can be made based on objective data collected by the project.
- The level of information overload experienced can be reduced by employing the principle of “management by exception.”

E. Tailoring: The guidelines and procedures described in the JSA Project Control System Manual are not directive in nature, but represent the standard approach to controlling projects undertaken at the Jefferson Lab. Certain customers (e.g., Department of Energy) will require the implementation of an Earned Value Management System based on the dollar threshold of the project’s anticipated cost. Other projects are highly encouraged to avail themselves of the tools and processes highlighted in this manual to establish a proactive



project management environment. Depending on the size, complexity and risk of the project, the processes can be tailored to best facilitate the successful achievement of the project goals. Projects with low complexity and risk factors may not require the same level of insight, management and control associated with a more complex project requiring significant planning and resources. Implementation of the JSA Project Control System Manual should be addressed specifically in all Project Execution Plans. All plans should identify those Earned Value Management elements deemed not applicable and provide a rationale for their exclusion.

- F. Training: The Jefferson Lab Project Management Qualification curriculum includes a course on Earned Value Management and its implementation using the JSA Project Control System Manual.

101 Roles and Responsibilities

The following roles are the key management elements responsible for implementing the processes delineated in the JSA Project Control System Manual.

- Project Customer
The ultimate stakeholder with a vested interest in the positive outcome of the project. Responsible for project funding and the establishment of project requirements.
- Project Manager
The senior leader of the project management team. Responsible for all aspects of project control from planning and budgeting to analysis and reporting.
- Associate Project Manager
The next level down from the Project Manager. There may be multiple Associate Project Managers with responsibility for managing top-level system elements of the project.
- Control Account Manager
The key person responsible at the detail level of project planning and execution. Manages one or more control accounts representing the lowest level where project performance is measured.



- Manager, Project Management & Integration Division (PM&I)
The PM&I Manager and staff are responsible for the JSA Project Control System Manual and the implementation of the Earned Value Management System process at Jefferson Lab.
- Chief Financial Office
Responsible for the financial system where accounting for project costs occurs.

102 References

The following documents were used as guidance in the development of the Project Control System Manual.

- DOE Order 413.3A, *Program And Project Management For The Acquisition Of Capital Assets* (7-28-06)
- DOE Manual 413.3-1, *Project Management for the Acquisition of Capital Assets* (3-28-03)
- DOE *Earned Value Management Application Guide*, Version 1.6 (January 1, 2005)
- DOE *Work Breakdown Structure Project Management Practices* (Rev E, June 2003)
- DOE *Scheduling and Cost Estimating Project Management Practices* (Rev E, June 2003)
- DOE *Performance Baseline Development and Validation Project Management Practices* (Rev E, June 2003)
- American National Standards Institute (ANSI)/Electronic Industries Alliance (EIA) Standard - 748-A-1998, *Earned Value Management Systems (EVMS)* approved May 19, 1998, reaffirmed August 28, 2002
- Project Management Institute *Practice Standard of Earned Value Management* (2005)
- National Defense Industrial Association *ANSI/EIA-748-A Standard for Earned Value Management Systems Intent Guide* (November 2006 Edition)
- National Defense Industrial Association *Surveillance Guide* (October 2004 Edition)



103 Revision of the JSA Project Control System Manual

The JSA Project Control System Manual is maintained by the Jefferson Lab Project Management & Integration Division. Questions, comments, and suggested revisions concerning this manual can be addressed to the PM&I staff. The Project Management & Integration Division will review the JSA Project Control System Manual annually to assess the need for revisions to this document. Proposed changes to the manual will be evaluated for impacts to the Earned Value Management process that could potentially affect system certification. All revisions will be approved by the Manager, Project Management & Integration Division. Approved revisions to the manual will be annotated in the Document Revision Log. The completed JSA Project Control System Manual document is then posted to the Jefferson Lab website and relevant organizations notified of the new updated version.